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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,119	12/04/2003	Ismail Emesh	004.0122	3177

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EXAMINER
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SHAKERI, HADI

ART UNIT	PAPER NUMBER
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3723

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/22/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/729,119

**Applicant(s)**

EMESH ET AL.

**Examiner**

Hadi Shakeri

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 19-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims 19-25 drawn to an invention nonelected with traverse in Paper No. 082905. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Rejections - 35 USC § 102/103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-18 are finally rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Moeggenborg et al. (6,974,777).

Moeggenborg et al. discloses all of the limitations of the above claims, as indicated in the pervious office actions, e.g., a CMP system using an abrasive free solution with an abrasive polishing pad having an aliphatic surfactant, with a pH buffer at 6 or greater (meeting the language as recited at e.g., 6). Note that the range recited for the molecular weight covers surfactants with both low molecular weigh (about 2000) and high molecular weigh (50,000 and higher) as defined in this art (see evidentiary references 6,634,928) and surfactants as disclosed by Moeggenborg et al., e.g., sorbitan fatty acid ester (e.g., sorbitan monolaurate, sorbitan monopalmitate, sorbitan sesquioleate, sorbitan trioleate) are considered to meet the range. However in the alternative, Moeggenborg et al. discloses that surfactant are also utilized to adjust the viscosity of the solution, which in turn effects the polishing rate and storage stability, and therefor using surfactant with a particular molecular weight for a desired viscosity, e.g., higher molecular weight for higher polishing speed, for particular application is considered to be within the knowledge of one of ordinary skill in the art, dependent on work-piece parameters.

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Regarding claims 3, 4, 9, 10, 15, 16 and 18, Moeggenborg et al. meets the limitations, i.e., polyethylene glycol; potassium oxalate, and leaving the removal rate of the oxide layer substantially unchanged (09:46-48).

Regarding claims 2, 5, 6, 8, 11, 12, 14 and 17, Moeggenborg et al. meets the limitations, except for the particular amount of the specific compounds, modifications well within the knowledge of one of ordinary skill in the art depending on the workpiece and/or operational parameters.

4. Claims 1-18 are finally rejected under 35 U.S.C. 103(a) as obvious over Kubota et al. (6,270,393) in view of Moeggenborg et al. or over Kubota et al. in view of Moeggenborg et al. and Hattori et al. (2004,0234396).

Kubota et al. as modified by Moeggenborg et al. or as modified by Moeggenborg and Hattori as described in the pervious office action meets all of the limitations of the above claims, except for disclosing the range of the molecular weight, obvious modification in adjusting the viscosity of the solution as indicated above for adapting the solution for a particular application.

### **Conclusion**

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Response to Arguments***

6. Applicant's arguments filed November 27, 2006 have been fully considered but they are not persuasive.

The argument that Moeggenborg does not disclose the molecular range is not persuasive since the range as indicated above covers relatively both low and high and is considered met by the fatty acid ester as disclosed by Moeggenborg, however in the alternative choosing a molecular weight depending on the operational parameters, e.g., higher weight for higher polishing speed, lower weight for storage stability would have been obvious to one of ordinary skill in the art.

The arguments regarding Kubota are not persuasive. The argument with regards to molecular weight is not persuasive, since the examples are in no way teaching away from using higher weight, but just exemplarily embodiment of the invention. It is also noted that the low molecular weight in the examples are for slurries with abrasives suspended in the solution, therefore storage stability and/or dispersion may be of higher interest, however, for an abrasive free solution for use with fixed abrasive pads (modified Kubota), higher polishing speed may be of higher interest requiring using high molecular weight for more viscous solution. The applicant argues that Kubota disclosed using abrasives in the solution with a fixed abrasive pad per disclosure in column 3, lines 11 to 22 and column 6, lines 36 to 38. This is in error, since lines in column 3, only describe using abrasive oil and they do not describe using fixed abrasive pads. In column 6, lines 36-38, Kubota discloses pressing the workpiece against "abrasion pad stuck to an abrasion platen", which only describes a "polishing pad stuck to a polishing platen",

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because in the "Summary of the Invention" Kubota defines the term "abrade" to include polish, grind, whet and the like (02:36-38), otherwise, the lines would define a fixed abrasive pad stuck to a fixed abrasive platen, which is clearly not the case.

7. Prior art made of record and not relied upon at this time are considered pertinent to applicant's disclosure. Balijepalli et al., Akahori et al. are cited to show related inventions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is (571) 272-4495. The examiner can normally be reached on Monday-Friday.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hadi Shakeri  
Primary Examiner  
Art Unit 3723

January 12, 2007